**IT Applications Unit 3, AOS 1, Online Communities**

Complete the following, from pgs, 14-18: **Network communication standards**

**Networks are classified according to below and we will study the following:**

1. **Network Categories: LAN, WAN**
2. **Network Architecture, client-server; peer-to-peer; internet peer-to-peer; intranet**
3. **Network communication standards**
4. **Network hardware and software**
5. **Transmission media**
6. **Network security**

**Network communication standards**

1. Why are network standards required?

Network standard is required to ensure hardware and software components will work on any network. Standards specify how:

* Computers access the network
* Type of medium used
* Speed of data transfuse
* Types of cables

1. What is a protocol?

A protocol is a standard that defines how two computers or devices on a network transmit data.

1. What is the OSI?

Open systems Interconnection is a standard for network communications that define a model for using protocols in several layers.

**Ethernet**

1. Describe the nature of Ethernet.

The nature of Ethernet is how network hardware must work also how networking software works.

1. What are frames?

An Ethernet frame contains packets of information communicated between two nodes.

1. Identify the 4 components of all Ethernet frames.

The four components of all Ethernet frames is:

* Contains the destination node address
* The sending node address
* Some data
* Contains parity information

1. Fig. 1-9 on p 17 lists the Ethernet type, cable type, maximum length and transfer rate for Ethernet transmissions. The College typically uses 100BaseTX, Cat 5 or10Gbase-T. What are their respective maximum lengths and transfer rates?

* 100Base TX 85 m, 100 MBPs
* Cat 5 85m, 10 GBPs

**TCP/IP**

1. Describe the nature of TCP/IP.

The nature of TCP/IP is the protocol on which the internet is based and is the standard for transmission over the internet.

1. TCP/IP uses smaller packets than other protocols. Why is this advantage on the internet?

It is an advantage on the internet as there are many different pathways from the originated device to destination device and packets don’t travel on the same path.

**802.11 wireless standard**

**1** What does this standard do?

This standard does:

* Defines how two computers or devices can communicate using radio waves.
* Network using 802.11 standards is known as a Wi-Fi network.
* Standard comes in different versions signified by an a, b, g or n notation
* 802,11n transfer rate of 108 Mbps to 600 Mpbs & supports 70 metres Vs 50 mtrs of earlier versions

2 What is a Wi-Fi network?

A Wi-Fi network allows computer that are up to 50 metres apart to be connected without the need for wires.

3 Different wireless standards transmit at different frequencies. What is the advantage of the newer 802.11n standard?

The advantage of the newer 802.11n standard is that it operates at 5 GHz and is expected to be faster and support a large range than previous standards.